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EXAMINER KOLLAS, ALEXANDER C				
ART UNIT		PAPER NUMBER		
4145				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/525,587

Applicant(s)

GAUWEILER ET AL.

Examiner

ALEXANDER C. KOLLIAS

Art Unit

4145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 20050225
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Specification

1. The spacing of the lines of the specification is such as to make reading difficult. New application papers with lines 1½ or double spaced on good quality paper are required.
2. The disclosure is objected to because of the following informalities:
 - a. page 9, line 6 of the Specification recites "2,5%" which appears to be a typographical error of "2.5%".
 - b. page 10, line 12 of the Specification recites "6,75" which appears to be a typographical error of "6.75%".
 - c. page 12, Line 37 of the Specification recites "0,1 wt. %" which appears to be a typographical error of "0.1 wt. %"Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-4 and 6-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "overall" in claim 1 is a relative term which renders the claim indefinite. The term "overall" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

apprised of the scope of the invention. The term “overall” does not make clear if the net charge of the resulting polymer is indeed cationic or anionic.

Claim Objections

5. Claim 1 is objected to because of the following informalities: Claim 1, Line 13 recites “0,1 to 20 %” which appears to be a typographical error of “0.1 to 20 %”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boeckh et al (WO 2001/094517, see English language equivalent US 2003/0195135).

Regarding claim 1, Boeckh et al teaches a process for the production of water-soluble or water-swellaable cationic polymers (Page 1, [0014]) by

(i) free-radically initiated copolymerization of monomer mixtures in water (Boeckh et al, Page 3, [0035], free-radically initiate copolymerization – free-radical polymerization) comprising:

(a) from 1 to 99% by weight (Page 6, [0074]), the disclosed range of 1 to 99 mol % mainly falls within the claimed range) of a cationic monomer (Page 6, [0074]) or quaternizable monomer (Page 4, [0052]),

(b) from 1 to 99 % by weight (Page 2, [0024], the disclosed range of 0 to 55% by weight falls mainly within the claimed range) of a water-soluble monomer (Page 2, [0032]),

(c) copolymerizable monomer, adjusting the amounts (a) to (c) in such a way that the resulting polymer has an overall positive charge (Pages 6-7, [0091]), in the presence of 1 to 100% of the amount of a salt which is necessary to saturate the reaction medium with said salt (Page 8, [0116]).

(ii) subsequent quaternization of the polymer if the monomer (Page 4, [0052])

(a) employed is a non-quaternized monomer (Page 4, [0052]).

Boeckh et al teaches that it may be necessary to add a dispersion auxiliary such as slat in order to obtain a stable finely divided suspension (Page 3, [0037]). However, the references does not explicitly teach the process comprising the polymerization “in the presence of 0.1 to 20% by weight referred to the weight of the dispersion, of an amphoteric dispersant having an overall negative charge”.

Since the instant specification is silent to unexpected results, the specific amount of salt is not considered to confer patentability to the claims. As dispersion stability is variable that can be modified, among others, by adjusting the amount of salt, the precise amount of salt would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed amount of salt cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the amount of salt in the process for production of water-swellaable cationic polymers of Boeckh et al to obtain the desired dispersion stability (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Regarding claim 2, Boeckh et al teaches all the claim limitations as set forth above. Additionally, the reference teaches a process where the amphoteric dispersant is a copolymer of at least partly hydrolyzed vinylformamide units (Page 6, [0086]) and acrylate units (Page 6, [0084]).

Regarding claim 3, modified Boeckh et al teaches all the claim limitations as set forth above. Additionally, the reference teaches a process, where the amphoteric dispersant is a copolymer of dimethylaminoethylmethacrylamide units (Page 4, [0053]) and acrylate units (Page 4, [0053]).

Regarding claim 4, Boeckh et al teaches all the claim limitations as set forth above. Additionally, the reference teaches a dispersion comprising water-soluble (Page 1, [0009]) or water-swellaable (Page 8, [0110]) cationic polymers obtained by the process as set forth above.

10. Claims 6-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boeckh et al (WO 2001/094517, see English language equivalent US 2003/0195135) as applied to claims 1-4 above and in view of Huang et al (WO 1999/46207).

Regarding claim 6, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for treating water comprising adding the dispersion to water.

Huang et al teaches a method for treating water comprising adding the dispersion to water (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic water swellaable monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, Lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellaable composition of Boeckh et al in the water treatment process taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use

of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 7, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for dewatering comprising adding the dispersion to a dewatering process.

Huang et al teaches a method for dewatering comprising adding the dispersion to a dewatering process (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic water swellable monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the dewatering process taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 8, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for clarifying water comprising adding the dispersion to a water clarification system.

Huang et al teaches a method for clarifying water comprising adding the dispersion to a water clarification system (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic monomers (Huang et al, Page 1, Lines 27-30), a water-soluble

monomer (Huang et al, Page 1, lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the clarifying process taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 9, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for making paper comprising adding the dispersion to a papermaking process.

Huang et al teaches a method for making paper comprising adding the dispersion to a papermaking process (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the papermaking process taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 10, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for producing oil comprising adding the dispersion to an oil field and an oil field operation.

Huang et al teaches a method for producing oil comprising adding the dispersion to an oil field and an oil field operation (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the method for producing oil taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 11, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for conditioning soil comprising adding the dispersion to soil.

Huang et al teaches a method for conditioning soil comprising adding the dispersion to soil (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the method of soil conditioning taught by Huang et al with

reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 12, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for processing minerals comprising adding the dispersion to a mineral processing system.

Huang et al teaches a method for processing minerals comprising adding the dispersion to a mineral processing system (Huang et al, Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous compositions comprising cationic monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the method of minerals processing taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Regarding claim 15, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a biotechnological method comprising utilizing the dispersion in a biotechnological application.

Huang et al teaches a biotechnological method comprising utilizing the dispersion in a biotechnological application (Page 1, Lines 5-8). Boeckh et al and Huang et al teach analogous

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compositions comprising cationic monomers (Huang et al, Page 1, Lines 27-30), a water-soluble monomer (Huang et al, Page 1, Lines 27-30) and salt (Huang et al, Page 11, Lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the water swellable composition of Boeckh et al in the biotechnological method taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

12. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boeckh et al (WO 2001/094517, see English language equivalent US 2003/0195135) as applied to claims 1-4 and in view of Bhattacharyya (US 4,806,345).

Regarding claims 13-14, Boeckh et al teaches all the claim limitations as set forth above. However, the reference does not teach a method for producing a hair or skin cosmetic comprising adding the dispersion to a hair or skin cosmetic formulation. Furthermore, the reference does not teach a hair or skin cosmetic comprising the hair or skin cosmetic formulation produced by the method as claimed above.

Bhattacharyya teaches a method for producing a hair cosmetic and a composition comprising adding the dispersion to a hair or skin cosmetic (Bhattacharyya, Column 1, Lines 6-12). Modified Boeckh and Bhattacharyya teach analogous water swellable compositions comprising cationic monomers (Bhattacharyya Column 1, Lines 55-65), water soluble monomers (Bhattacharyya Column 4, Lines 5) and a salt (Bhattacharyya Column 3, Line 49-51) which can be used as a water thickening agents. It would have been obvious to one of ordinary skill in the

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art at the time the invention was made to use the water swellable composition of Boeckh et al in the method for producing a hair cosmetic taught by Bhattacharyya with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)270-3869. The examiner can normally be reached on Monday-Thursday, 7:30 AM-5:00 PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571)-272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./
Examiner, Art Unit 4145

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 4145